

REMARKS

Claims 23, 43, and 56 have been amended for the purpose of clarifying what Applicants regard as the invention. No new matter has been added.

I. CLAIM REJECTIONS-- 35 U.S.C. § 101

Claims 23-31, 38-41, and 43-55 stand rejected under 35 U.S.C. § 101. According to the Office Action, the claims are useful and concrete, but allegedly fail to produce a tangible result. Without acquiesce to the basis of the rejection, claim 23 has been amended to recite loading the at least one identified collection element into the computer-readable memory. Since loading a collection element into a computer-readable memory changes a physical characteristic of the memory, Applicants respectfully submit that amended claim 23 and its dependent claims describe a method that clearly produces a tangible result, and therefore, satisfy § 101.

With respect to claim 43, Applicants note that paragraph 40 of the specification describes that a computer readable medium may be a non-volatile medium, a volatile medium, or a transmission medium (e.g., acoustic or light waves). To address the Examiner's concern regarding the transmission medium, claim 43 has been amended to clarify that the computer readable medium is a non-volatile medium or a volatile medium. As such, it is believed that claim 43 and its dependent claims satisfy § 101.

II. CLAIM REJECTIONS-- 35 U.S.C. § 102

Claims 23-68 stand rejected under 35 U.S.C. § 102(e) as being allegedly anticipated by Traversat. Applicants respectfully note that in order to sustain a claim rejection under § 102, each of the claim elements must be found, either expressly or inherently, in the cited reference.

Claim 23 recites receiving a document operation request, and identifying at least one of the one or more required collection elements of a document for processing. Claims 43 and 56 recite similar limitations. Traversat does not disclose or suggest the above limitations. According to the Office Action, column 30, lines 42-64 and column 29, lines 20-35 allegedly disclose the above limitations. However, the cited passages disclose receiving a reference to a cache line in a virtual heap address space, and does not disclose or suggest receiving a request to perform a document operation. Also, according to page 12 of the Office Action, the claimed collection element of a document is considered immaterial to the claims, and therefore, a reference that discloses any type of data would be considered as disclosing this element. However, Applicants respectfully note that a mere disclosure of data in Traversat does not necessitate a finding that a document element is disclosed. In addition, Applicants respectfully submit that a claim is anticipated only if *each and every element* as set forth in the claim is found in the reference (MPEP 2131), and therefore, it is improper to consider a claim element as immaterial for the purpose of establishing a § 102 rejection. For at least the foregoing reasons, claims 23, 43, and 56, and their respective dependent claims, are believed allowable over Traversat.

Claim 23 also recites determining whether the at least one identified collection element is within a collection partition in the memory. Claims 43 and 56 recite similar limitations. According to the Office Action, column 30, lines 42-64 of Traversat disclose “cache hit” which the Examiner considered to be the above claim limitations. However, the relevant portion of the cited passage of Traversat actually discloses:

The following are examples of types of operations that may occur on a virtual persistent heap cache line:

Cache Hit: a reference is made to a valid cache line in the virtual heap address space of the application. The in-memory heap currently contains the cache line. The cache table contains the mapping of the cache line into the heap.

As such, the cited passage describes the “cache hit” as a type of operation by which a reference is made to a valid cache line in a virtual heap address space of an application, and therefore, does not disclose or suggest determining whether a collection element of a document is within a collection partition in a memory, as recited in claims 23, 43, and 56. Also, Applicants respectfully note that the act of making a reference to an object in a memory is not the same as the act of determining whether the object is within the memory. For these additional reasons, claims 23, 43, and 45, and their respective dependent claims, are believed allowable over Traversat.

Claim 23 also recites loading the at least one identified collection element into a memory *based on a result from the act of determining whether the at least one identified collection element is within a collection partition in the memory*, wherein the at least one identified collection element is loaded into the memory when the at least one identified collection element is not within a collection partition in the memory (Emphasis Added). Claims 43 and 56 recite similar limitations. According to the Office Action, column 29, lines 20-39 of Traversat allegedly discloses loading a collection element into memory when the collection element is not within a collection partition in the memory. However, the cited passage of Traversat actually discloses:

In a cache line based system, the cache line size may be increased to reduce the cache table size. Increasing the cache line size may permit the grouping of multiple objects into a single cache line. In this case, a single cache table entry may play the role of multiple object handle entries (one handle for each object in the cache line). Grouping objects into a single cache table entry may allow the reduction of the memory footprint required for a handle table, as there may be fewer handles. Updating a

single object in the cache line may require the writing of the entire cache line (all objects in the cache line). Alternatively, reducing the cache line size allows fewer objects to be stored in a cache line, thus reducing caching granularity. This approach may increase the cache table size. The cache line size may be adjusted accordingly based upon memory constraints on the device on which the cache line based system is implemented.

On each virtual persistent heap reference (read or write), read/write barriers may be used to verify the validity of the address (i.e. to check if the corresponding cache line is resident in the heap), and to translate it into the current heap location.

As such, the cited passage of Traversat discloses updating an object in a cache line, and does not disclose or suggest loading a collection element of a document into a memory, much less, loading such collection element into the memory *based on a result from the act of determining whether the at least one identified collection element is within a collection partition in the memory*. Applicants further note that the alleged identical invention in the cited reference must be shown in as complete detail as is contained in the claim, and that the elements in the reference must be arranged as required by the claim (MPEP 2131). To the extent that the Examiner still considers column 30, lines 42-64 (describing “cache hit”) as disclosing “determining whether the at least one identified collection element is within a collection partition in the memory” (which is not the case as discussed), Applicants respectfully note that there is nothing in Traversat that disclose or suggest loading a collection element into a memory *based on* such “cache hit”. For these additional reasons, claims 23, 43, and 45, and their respective dependent claims, are believed allowable over Traversat.

CONCLUSION

Based on the foregoing, all claims are believed allowable, and an allowance of the claims is respectfully requested. If the Examiner has any questions or comments, the Examiner is respectfully requested to contact the undersigned at the number listed below.

If the Commissioner determines that additional fees are due or that an excess fee has been paid, the Patent Office is authorized to debit or credit (respectively) Deposit Account No. 50-2518, billing reference no. 7035722001.

Respectfully submitted,
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